

FIG. 1A

gggcaggaagacggcgctgcccgaggagc																				-153
ggggcgggcgggcgcgcgggggagcgggcggcgggcgggagccaggcccgggcgggggcgggggcgggcgggccag																				-77
aagaggcgggcgggcgcgctccggccggtctgcggcggttgcccttggtttggctttggcgggcggtggagaag																				-1
ATG	CTG	CAG	TCC	CTG	GCC	GGC	AGC	TCG	TGC	GTG	CGC	CTG	GTG	GAG	CGG	CAC	CGC	TCG		57
M	L	Q	S	L	A	G	S	S	C	V	R	L	V	E	R	H	R	S		19
GCC TGG TGC TTC GGC TTC CTG GTG CTG GGC TAC TTG CTC TAC CTG GTC TTC GGC GCA																				114
A	W	C	F	G	F	L	V	L	G	Y	L	L	Y	L	V	F	G	A		38
GTG GTC TTC TCC TCG GTG GAG CTG CCC TAT GAG GAC CTG CTG CGC CAG GAG CTG CGC																				171
V	V	F	S	S	V	E	L	P	Y	E	D	L	L	R	Q	E	L	R		57
AAG CTG AAG CGA CGC TTC TTG GAG GAG CAC GAG TGC CTG TCT GAG CAG CAG CTG GAG																				228
K	L	K	R	R	F	L	E	E	H	E	C	L	S	E	Q	Q	L	E		76
CAG TTC CTG GGC CGG GTG CTG GAG GCC AGC AAC TAC GGC GTG TCG GTG CTC AGC AAC																				285
Q	F	L	G	R	V	L	E	A	S	N	Y	G	V	S	V	L	S	N		95
GCC TCG GGC AAC TGG AAC TGG GAC TTC ACC TCC GCG CTC TTC TTC GCC AGC ACC GTG																				342
A	S	G	N	W	N	W	D	F	T	S	A	L	F	F	A	S	T	V		114
CTC TCC ACC ACA GGT TAT GGC CAC ACC GTG CCC TTG TCA GAT GGA GGT AAG GCC TTC																				399
L	S	T	T	G	Y	G	H	T	V	P	L	S	D	G	G	K	A	F		133
TGC ATC ATC TAC TCC GTC ATT GGC ATT CCC TTC ACC CTC CTG TTC CTG ACG GCT GTG																				456
C	I	I	Y	S	V	I	G	I	P	F	T	L	L	F	L	T	A	V		152
GTC	CAG	CGC	ATC	ACC	GTG	CAC	GTC	ACC	CGC	AGG	CCG	GTC	CTC	TAC	TTC	CAC	ATC	CGC		513
V	Q	R	I	T	V	H	V	T	R	R	P	V	L	Y	F	H	I	R		171
TGG GGC TTC TCC AAG CAG GTG GTG GCC ATC GTC CAT GCC GTG CTC CTT GGG TTT GTC																				570
W	G	F	S	K	Q	V	V	A	I	V	H	A	V	L	L	G	F	V		190
ACT GTG TCC TGC TTC TTC TTC ATC CCG GCC GCT GTC TTC TCA GTC CTG GAG GAT GAC																				627
T	V	S	C	F	F	F	I	P	A	A	V	F	S	V	L	E	D	D		209

FIG. 1B-1

FIG. 1B-2

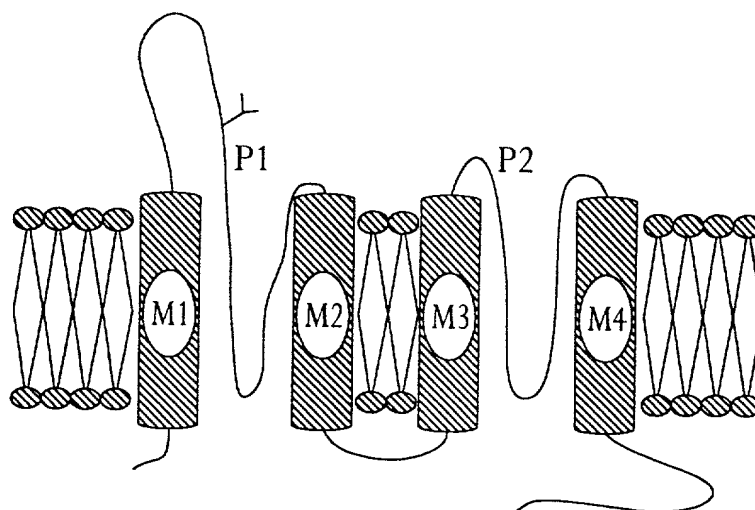
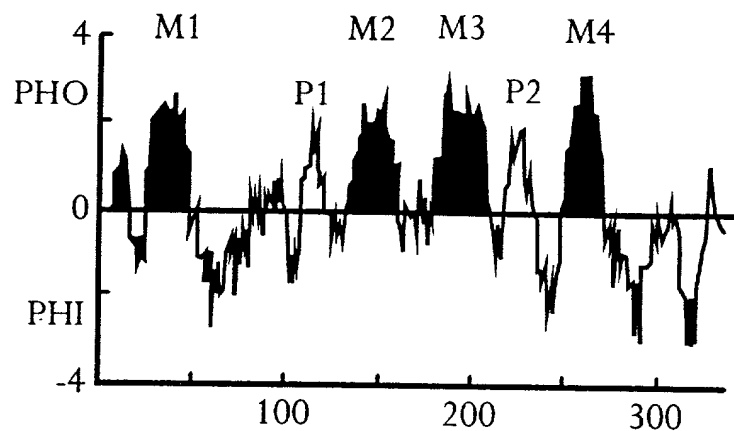


FIG. 1C

FIG. 2A

	1	14	27
TWIK-1 P1	FTSALFFASTVLSTTGYGHTVPLSDGG		
TWIK-1 P2	ELESFYFCFISLSTTGLGDYVPGEYN		
TOK1 P2	YFNCIYFCFLCLLTIGYGDYAPRTGAG		
TOK1 P1	YGNALYFCTVSLLTVGLGDTLPKSVGA		
Slo	YWTCVYELIVTMTSTVGYGDVYCETVLG		
Shaker	IPDAFWWAVVTMTTVGYGDMTPVGFWG		
Shab	IPEAFWWAGITMTTVGYGDI CPTTALG		
Shal	IPAAFWYTIIVTMTTLGYGDMVPETTAG		
Shaw	IPLGLWVALVTMTTVGYGDMA PKTYIG		
KAT1	YVTALYWSITTLTTTGYGDFHAENPRE		
AKT1	YVTSMYWSITTLTTVGYGDTHPVNTKE		
eag	YVTALYFFMTTCMTSVGEGNVAAETDNE		
ROMK1	MTSAFLFSLETQVTIGYGFRFVTEQCA		
IRK1	ETA AFLFSIETQTTIGYGFRCVTDECP		
GIRK1	EPSAFLFFIETEATIGYGYRYITDKCP		

FIG. 2A

TWIK-1 1 MLOS LAGSSCVREVE-----RHRS AWCF--GE-----LVLGY  
 f17c8 1 MYTDEGEYS GDTDHGGST MOKMSPNTRONFRONVNVVVCLSAATL--  
 M110-2 1 MTVSMEENSKIOMLSATSKDKKVATDRSLLNKYHLGPALHTGLVLSCL

TWIK-1 31 LLYLMFGAVVFS SVELPYEDLLRQE-----LRKLKRRELEEHEC---L  
 f17c8 47 LVENLIGAGIEF-----YLAETONSSSES  
 M110-2 49 VTYALGCAYELLSIEHP-EELKRREKAIREFQDLKQOFMGNITSGIEN

TWIK-1 71 SEQOLEQFLGRVL-----EASNGVSVLSNASGNWNW--DFTSALE  
 f17c8 69 LNENSEV--SKCLHNLPIGGKITAE M KSKLGKCIKSSRIDGEGKATF  
 M110-2 96 SEQSEELTKKLLMLEDAHNAHAFFEYFFLNRELPKDMW--TFSSALV

P1  
 TWIK-1 110 FASTVLESTTG YGHTVPESDGGKAFCTI-YSVIGIPFTLLFLTAVVORI  
 f17c8 115 FSWTLYSTVGYGSLYPHSTLGRYLTIF-YSLDMIPVFIATKFEFGTFL  
 M110-2 142 FTITTVIPVGYGYIEPVSA YGR-MCLLAYALLGIPLETITVTMADTGKFA

TWIK-1 157 TVH---VTRRPVL-----YEHWRWGESKOVVAIVHAVLLGEYTVSCFF  
 f17c8 162 AHFLVVVSNRTRLAVKKAYYKLS-ONPENAE T PSNSLOHDYLLFLSSL  
 M110-2 189 AOL---VTR-----W-FGDNNAIPAATFV-----CLL

P2  
 TWIK-1 197 FL-PAAVFS--VL--EDDWNELESEYFCFISESTIGLGDYVRGEGYN  
 f17c8 209 LCSTSLSSSAEFSS IENISYLSSVYFGITMFLDIGIDVPTN---  
 M110-2 213 FAYPLAVGF---LCSTSNITLYLDSVYFSITSEFTIGFGDLTP----

TWIK-1 239 QKFRGLYKIGETFCYLLGLIAMEVLETFC----ELHELKKR-----  
 f17c8 254 -----LVWFSGYCMFLISDVLSNOIFYFCQARVRYFFHILAKRI  
 M110-2 253 -----DMNVITHVLELAVGVILVTITLDIVA---AEMIDRVHYMGRHVG

TWIK-1 278 -----KMEYVKKDKDEDVHITTEHDOL---SFSSSTDOAAGMKED  
 f17c8 295 LLRE-EDDGFQLETTYSLOHPIINSQCMPSL----VLDCEKEELND  
 M110-2 294 KAKELAGKMFQLAQSLNKKOGLVSGVGOLHALAREGMLVGREEVDKIQ

TWIK-1 315 QKONEPFVAT-----QSSACVDGPANH----  
 f17c8 338 EKLISSELTST-----  
 M110-2 342 EDGIIAFSPDVM DGLEFMDTLSIYSRRSRRSAENSARNLFLS

FIG. 2B

093443.0340  
 04280" E346E660

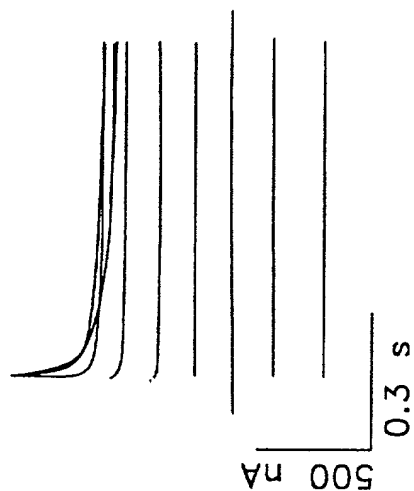


FIG. 3A

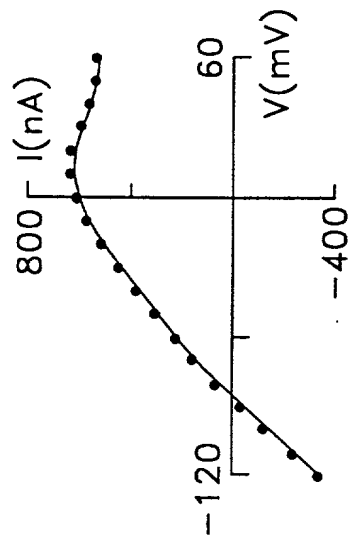


FIG. 3B

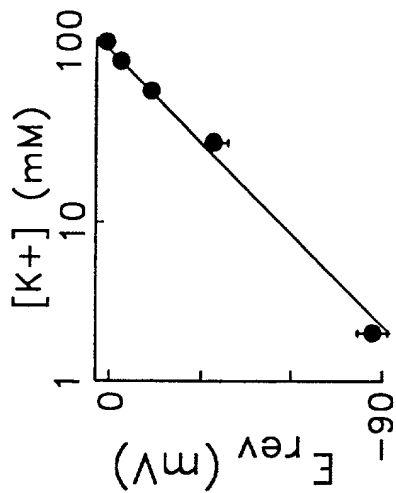


FIG. 3C

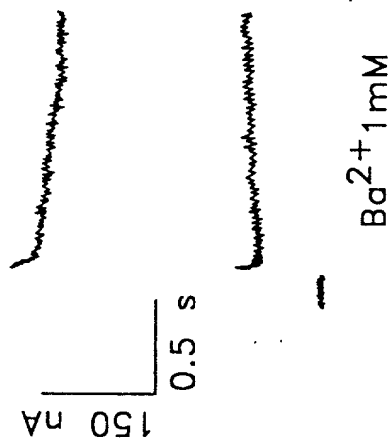


FIG. 3D

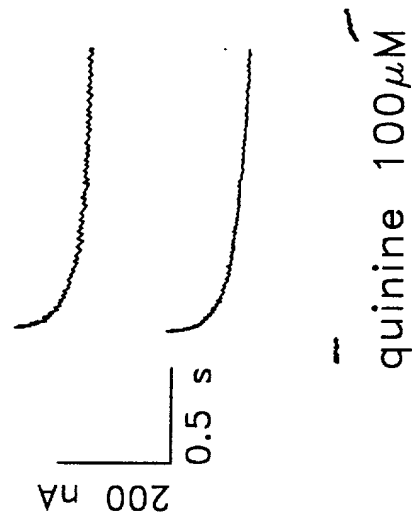


FIG. 3E

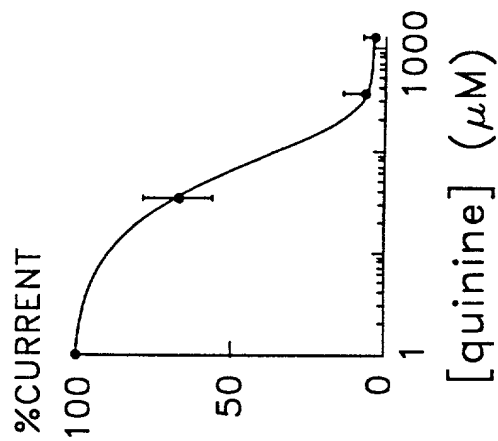


FIG. 3F

FIG. 4A

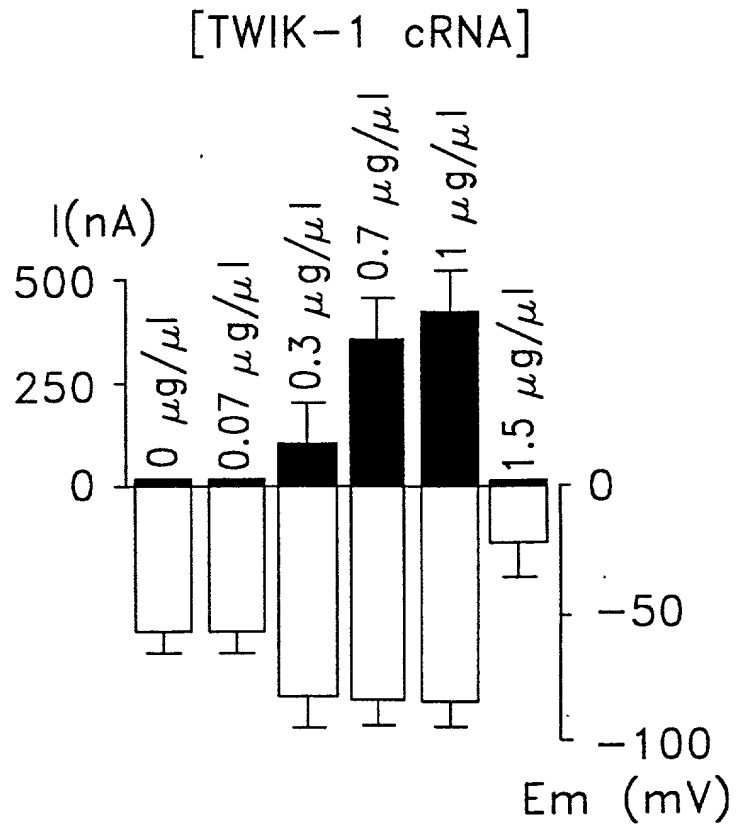


FIG. 4B

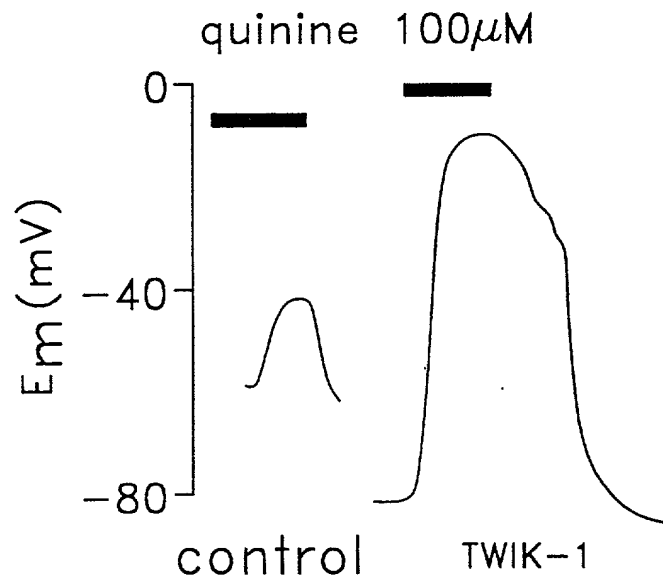
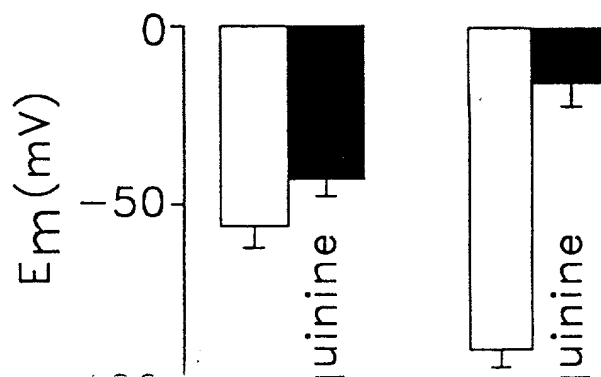


FIG. 4C





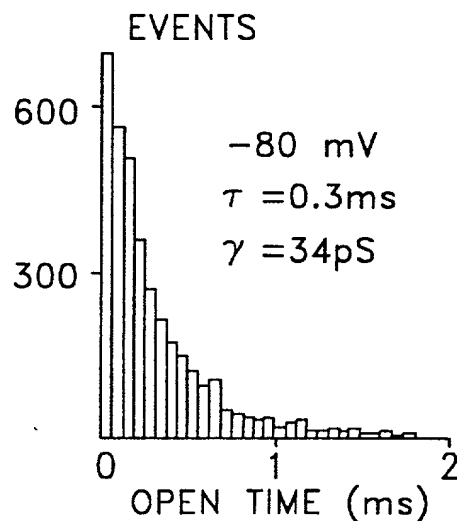
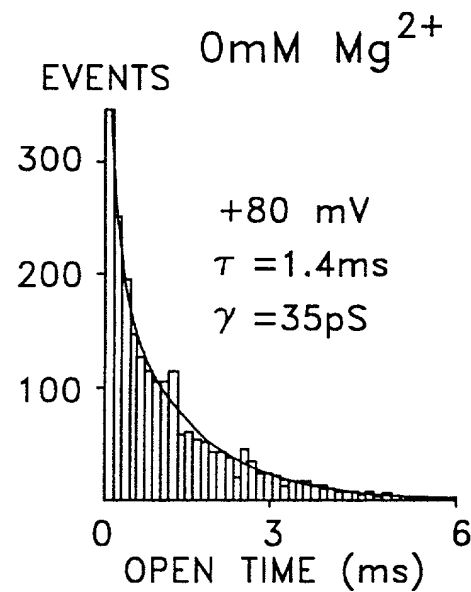


FIG 5D

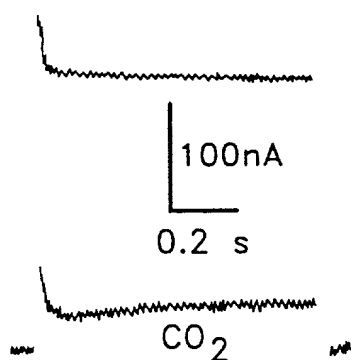


FIG. 6A

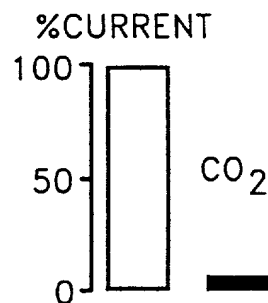


FIG. 6B

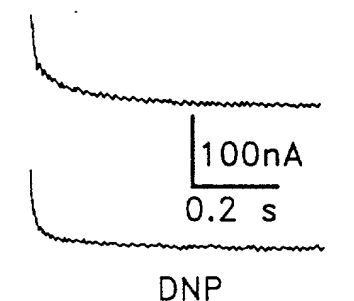


FIG. 6C

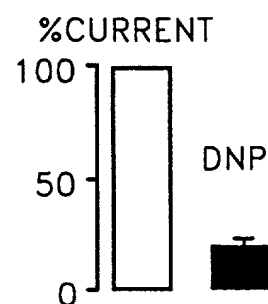


FIG. 6D

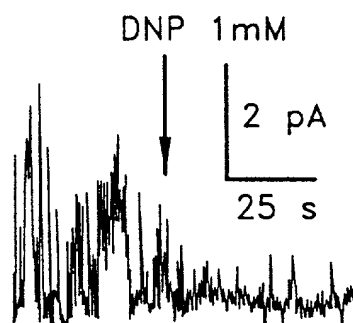


FIG. 6E

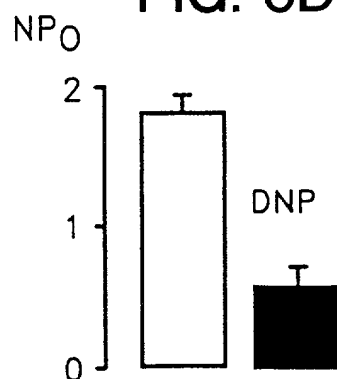


FIG. 6F

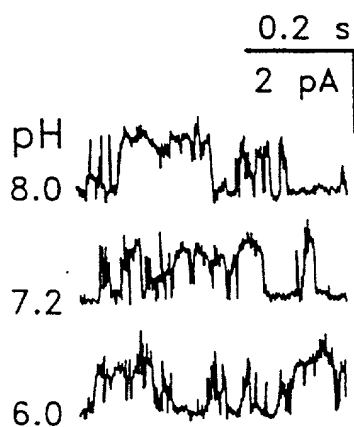


FIG. 6G

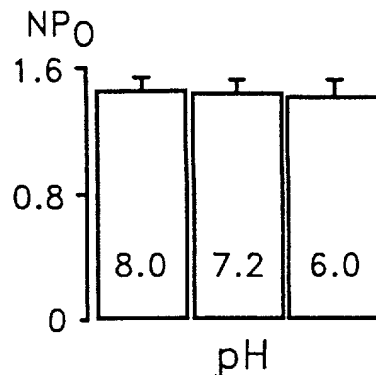


FIG. 6H

T04280" E046650

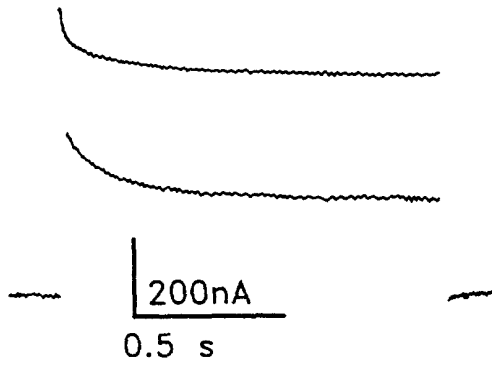


FIG. 7A

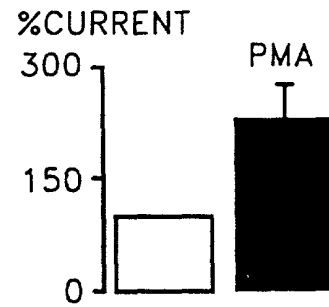


FIG. 7B

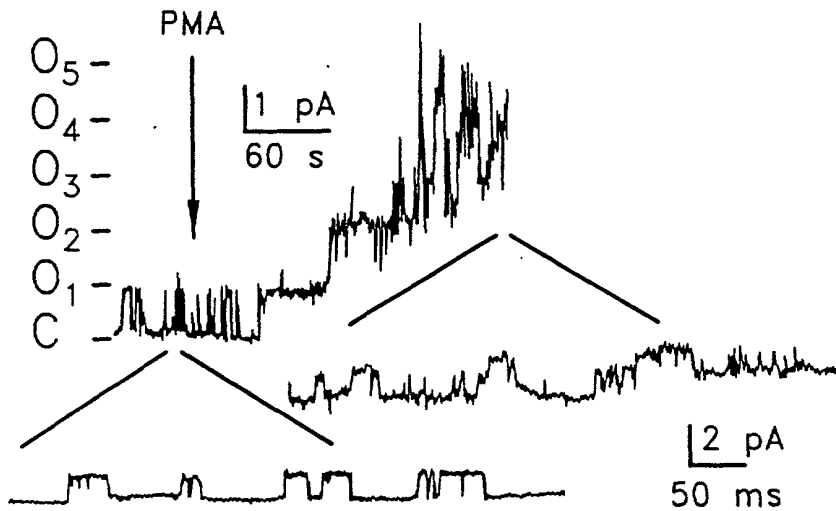


FIG. 7C

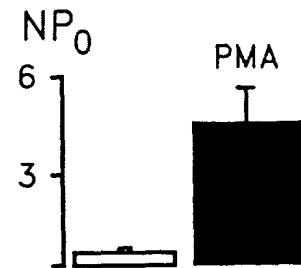


FIG. 7D

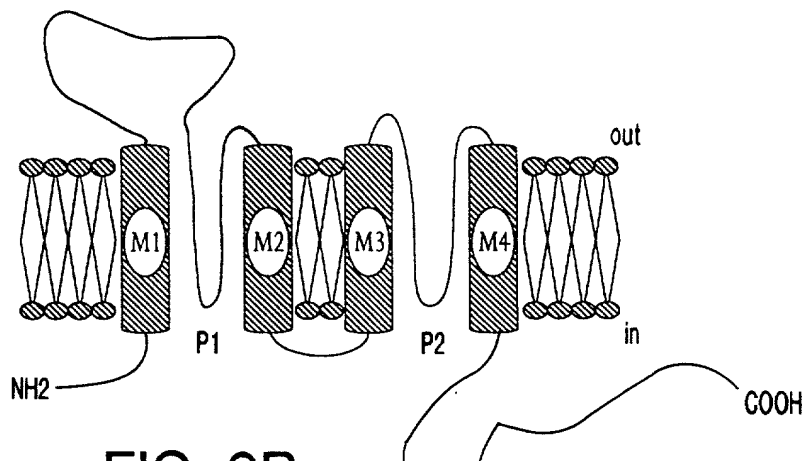
FIG. 8A

1201-CIP-DIV-2-00  
 Fabrice Duprat, et al  
 Family of Mammalian Potassium Channels, Their Cloning  
 And Their Use, Especially for The Screening of Drugs

ACC	ATG	AAC	GCC	GAG	GAC	GAG	AAG	CGC	GAC	GCC	GAG	CAC	CGC	GCG	CTG	CTC	ACG	CGC	798	
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	R	266	
T	M	N	A	E	D	E	K	R	D	A	E	H	R	A	L	L	T	H		
AAC	GGG	CAG	GCG	GGC	GGC	GGC	GGA	GGG	GGT	GGC	AGC	GCG	CAC	ACT	ACG	GAC	ACC	GCC	855	
N	G	Q	A	G	G	G	G	G	G	G	S	A	H	T	T	D	T	A	285	
N	G	Q	A	V	G	L	G	G	L	S	C	L	S	G	S	L	G	D		
TCA	TCC	ACG	GCG	GCA	GCG	GGC	GGC	GGC	GGC	TTC	CGC	AAC	GTC	TAC	GCG	GAG	GTG	CTG	912	
S	S	T	A	A	A	G	G	G	G	F	R	N	V	Y	A	E	V	L	304	
<u>VRPRDPV</u>	<u>TC</u>	<u>AA</u>	<u>A</u>	<u>A</u>	<u>G</u>	<u>GVGVGVGS</u>	<u>G</u>	<u>F</u>	<u>R</u>	<u>N</u>	<u>V</u>	<u>Y</u>	<u>A</u>	<u>E</u>	<u>V</u>	<u>L</u>				
CAC	TTC	CAG	TCC	ATG	TGC	TCG	TGC	CTG	TGG	TAC	AAG	AGC	CGC	GAG	AAG	CTG	CAG	TAC	969	
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y	323	
H	F	Q	S	M	C	S	C	L	W	Y	K	S	R	E	K	L	Q	Y		
TCC	ATC	CCC	ATG	ATC	ATC	CCG	CGG	GAC	CTC	TCC	ACG	TCC	GAC	ACG	TGC	GTG	GAG	CAG	1026	
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	Q	342	
S	I	P	M	I	I	P	R	D	L	S	T	S	D	T	C	V	E	H		
AGC	CAC	TCG	TCG	CCG	GGA	GGG	GGC	GGC	CGC	TAC	AGC	GAC	ACG	CCC	TCG	CGA	CGC	TGC	1083	
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	S	R	R	C	361	
S	H	S	S	P	G	G	G	G	R	Y	S	D	T	P	<u>S</u>	<u>H</u>	<u>P</u>	<u>C</u>		
CTG	TGC	AGC	GGG	GCG	CCA	CGC	TCC	GCC	ATC	AGC	TCG	GTG	TCC	ACG	GGT	CTG	CAC	AGC	1140	
L	C	S	G	A	P	R	S	A	I	S	S	V	S	T	G	L	H	S	380	
L	C	S	G	<u>T</u>	<u>Q</u>	<u>R</u>	<u>S</u>	<u>A</u>	<u>I</u>	<u>S</u>	<u>S</u>	<u>V</u>	<u>S</u>	<u>T</u>	<u>G</u>	<u>L</u>	<u>H</u>	<u>S</u>		
CTG	TCC	ACC	TTC	CGC	GGC	CTC	ATG	AAG	CGC	AGG	AGC	TCC	GTG	TGA	ctgccccgaggggacc					1200
L	S	T	F	R	G	L	M	K	R	R	S	S	V	*						395
L	<u>A</u>	<u>A</u>	<u>F</u>	<u>R</u>	<u>G</u>	<u>L</u>	<u>M</u>	<u>K</u>	<u>R</u>	<u>R</u>	<u>S</u>	<u>S</u>	<u>V</u>							
tggagcacctggggg	cgcgggg	cgggggg	gacccctg	ctggg	agggc	aggagactg	ccccctg	ctgccttctg	ccccagtg	1276										
ggaccccgcacaacat	ccctcaccact	ctccccagc	acccccat	ctccgact	gtgcctg	cttgaccagc	cgga	1352												
ggaggccgggctctg	aggacccctg	ggggcccccat	cgagccctg	caaattccg	agaaatgtg	aaacttggtggg	1428													
tcaggaggagaaagg	cagaagctggg	agcctccctt	ccctttgaaa	atctaaga	agctcccagtc	ctcagagacc	1504													
gctggtaccacacccc	accttcggagg	gggacttcat	gttccgtgt	acgtttgcat	ctctatttat	acctctgtcct	1580													
gctaggtctccccac	cttcccttgg	ttccaaaag	ccagggtgt	tctatgtcc	aaagtcacccc	tactagcccc	actcc	1656												
ccttccctcatcccc	agctgtgtct	cccaacct	cccttctgt	gttgtttg	catggctttg	cagttatgg	agaaagt	1732												
gaaacccagcagtc	ccctaaagct	ggtccccaga	aaagcagg	acagaaaga	aggagggac	aggcaggc	agcaggagg	1808												
gcgagctgggagg	caggagcag	cgccctgt	cagtcctg	cagaatggt	cgactggag	gttcaagct	aaactggc	1884												
cagccacattctc	atagcaggt	aggacttcag	ccttccag	acactgccc	cttagaat	ctggaac	agaagact	1960												
ctcaccataattg	ctgataatt	accactctt	aaatttgc	gagtgatt	tttagcct	ctgaaa	actctatg	2036												
cactgattccttt	gagttcacaaa	accctact	taggtcat	cagggcagg	agttctcact	cccatttt	acagatga	2112												
gaatactgaggc	ctggacaggt	gaagtgacc	agagagc	aaaaggc	aaagggt	gggggct	gggtgcagt	2188												
acctgtattcc	caacactttt	ggaggctg	agggtgg	aggattg	cttgagccc	agggaatt	cagaccag	2264												
acatagtgag	acccatctc	tacaaaaa	ataaaaaa	taaacagg	gtgtggt	ggcacgt	gcctggg	2340												
cttgggaggct	gaggtggg	aggattgt	ttgagcct	gggagg	tcgaggct	gtagtgag	ccctgatt	2416												
ctccagcctgg	gtgacagg	gcaagacc	ctgtctc	aaaaaaaa	aaaaaaaa	aaaaaaaa	aaaaaaaa	2465												

FIG. 8B

**FIG. 9A**



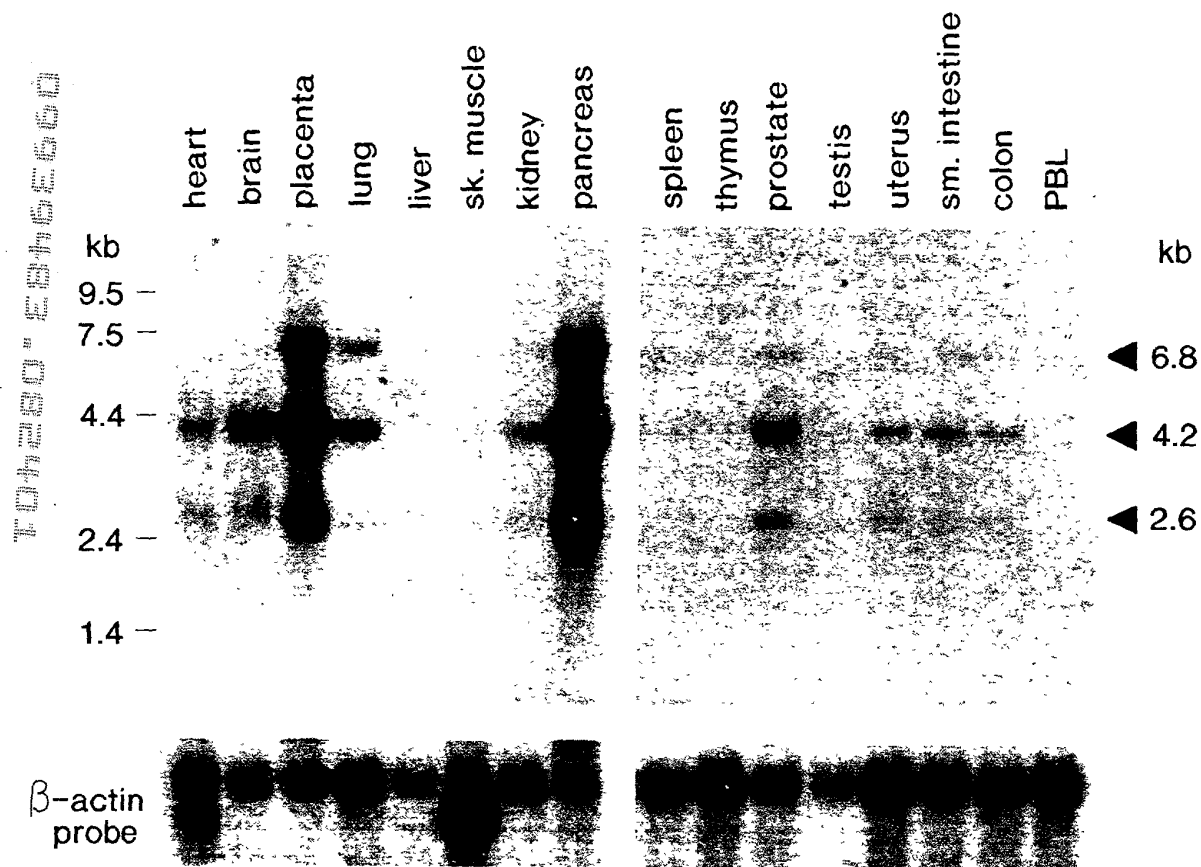


FIG. 10

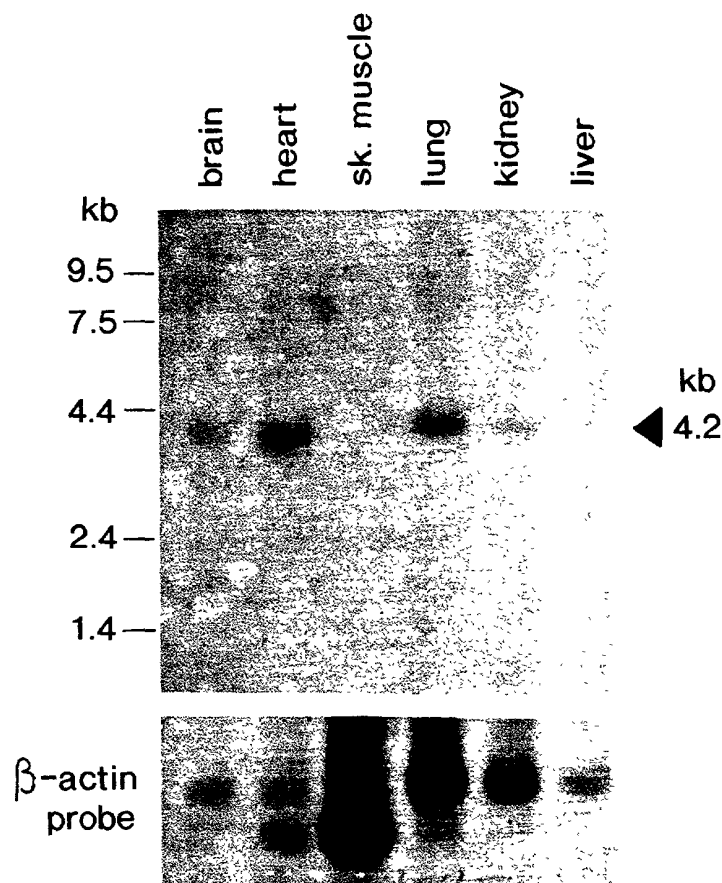


FIG. 11A

FIG. 11B

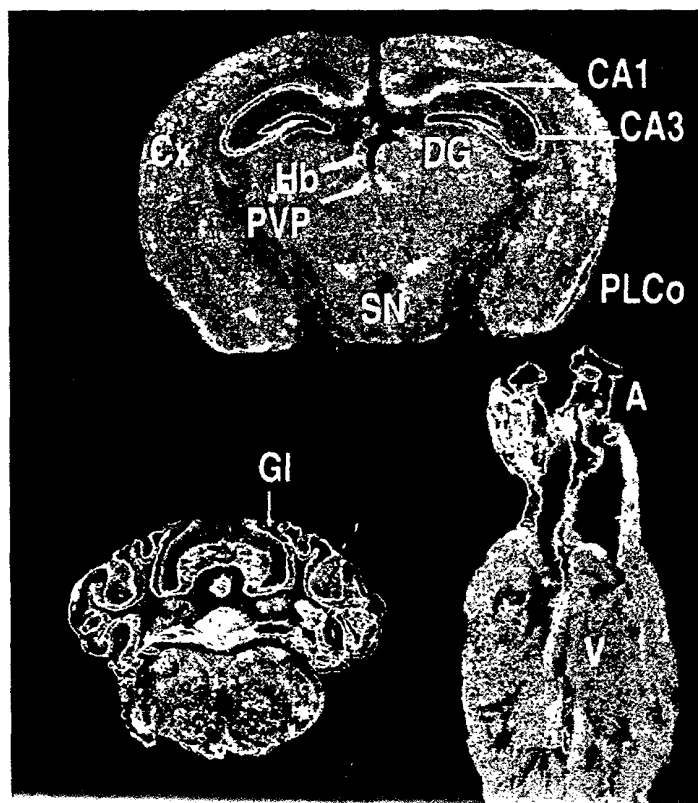


FIG. 11C

FIG. 11D



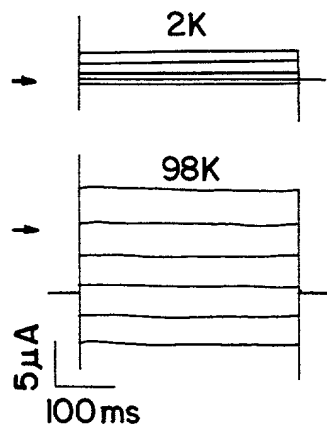


FIG. 12A

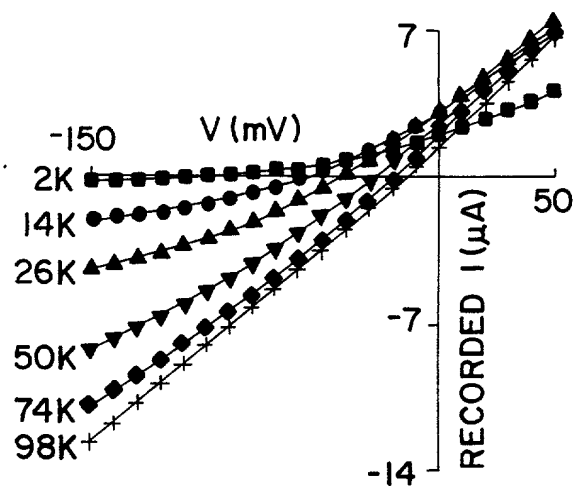


FIG. 12B

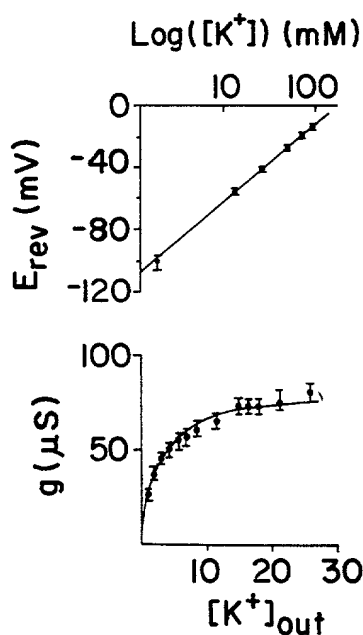


FIG. 12C

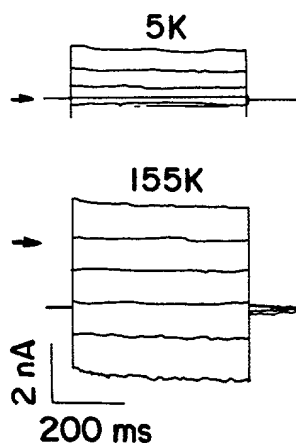


FIG. 12E

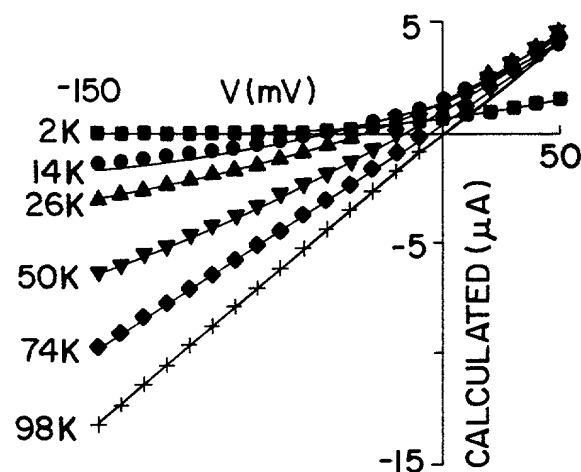


FIG. 12D

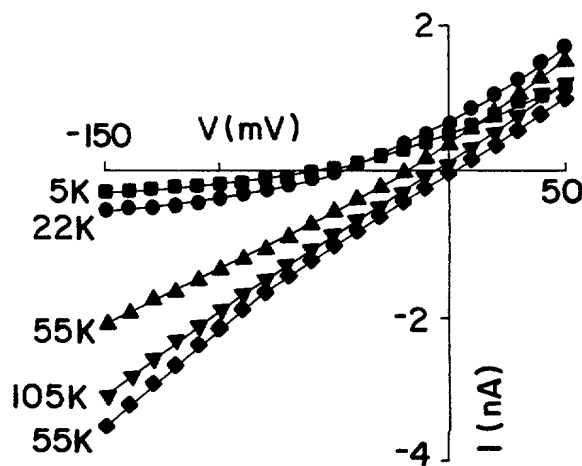


FIG. 12F

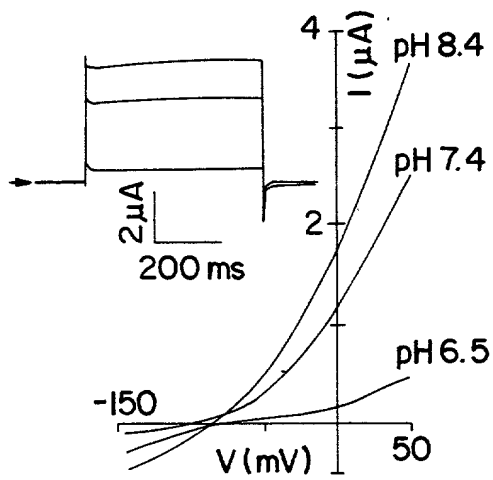


FIG. 13A

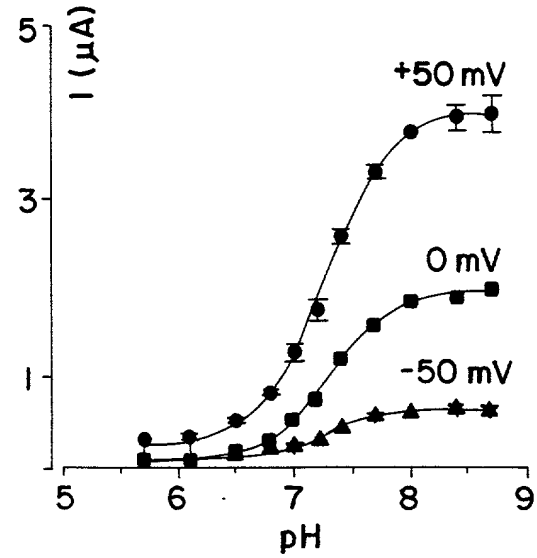


FIG. 13B

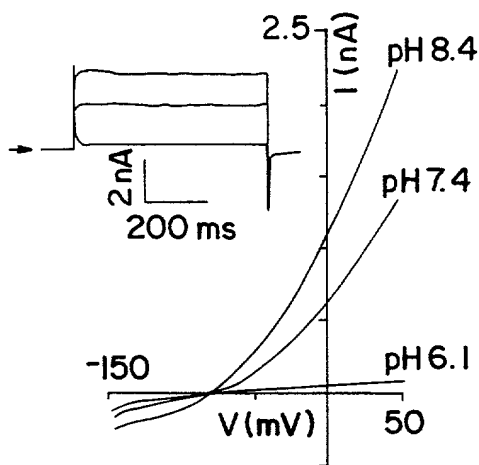


FIG. 13C

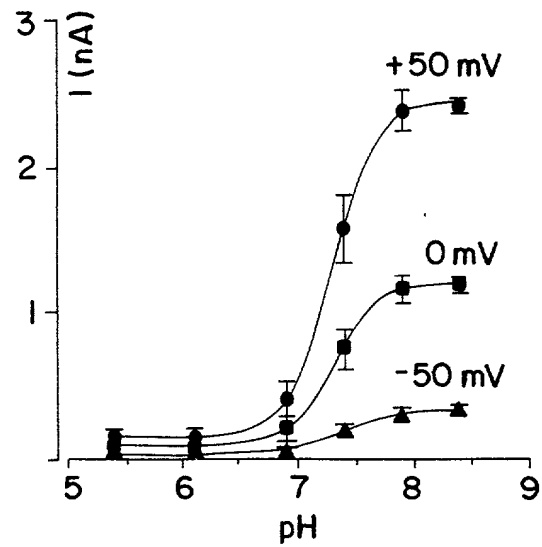


FIG. 13D